

to grow. When this structure is fully grown the ovary usually has a similar structure to that described for *O. Lindheimeri* and in addition is surmounted by this butt of a hollow style.

Perhaps the most peculiar abnormality of all, more rarely met with, is that in which the tissues of the joint simulate portions of the fruit. A few joints of the cochineal pear (*Nopalea cochinillifera*) were found the past season wherein a portion of the base of several joints had turned to the color of the fruit. Examination showed that the texture as well as the flavor was exactly that of the rind of the mature fruit. There were no fruits produced by any of these joints. The abnormal red portion was a little swollen and more prominent than the remainder, but further than this, there was no abnormality except that the vascular system for some reason was slightly knotted. It is not at all uncommon to find joints or portions of joints of *O. Kleiniae* or *O. leptocaulis* simulating their fruits in color. The red coloration in these species may occur at the proximal, distal or central portion or may take in the entire joint. A change in the tissue also accompanies the change of color but these joints often become incorporated as a permanent part of the plant body. It is not at all uncommon to find portions of the joints of *O. lacvii*, and other *Platyopuntias*, adjacent to the fruits becoming somewhat changed when the latter ripens. Sometimes the tissues immediately surrounding the vascular bundles entering the fruits may simulate the color of the fruit for an inch below the areole while at other times the whole areolar region is colored red.

WASHINGTON, D. C.

CRATAEGUS OF DUTCHESS COUNTY, NEW YORK*

BY W. W. EGGLESTON

With but little time for exploring in 1905, I had two things in mind in regard to my *Crataegus* problem. The first was to know the form in the field which Dr. Britton had considered nearest *Crataegus coccinea* L., and the second to cover as much unexplored territory north of the city as possible.

* Read before the Torrey Botanical Club, February 28, 1906.

The form of *coccinea* was first found at Persimmon Island, New Rochelle, by Professor E. H. Day in 1876, and in 1893 on the Harlem River near Fordham Heights Station by E. P. Bicknell. Although both of these stations have been destroyed I was able to find the plant; in fact it proves to be the most common thorn about the ledges of New York City and the Palisades of the Hudson. It seems to be the form described from Biltmore by Beadle as *Crataegus Boyntoni*, and later from Rochester, N. Y., by Professor Sargent as *C. Baxteri*.

Knowing that a limestone country is the best locality for *Crataegus*, for my general exploration I first went up the Harlem Railroad into the Taconic Mountains region from Pawling to Chatham, where I had seen plenty of thorns in 1904.

The best time to see thorns is in flowering time and a railroad train is an excellent place from which to locate a lot of them in short order. On May 21, 1905, I rode as far north as Millerton, about 90 miles from New York, noting the best thorn thickets on the way. I walked back five miles to Coleman's Station, seeing a few thorns on the way; the wooded hillside southwest of the station was a fine place for thorns, having several forms. My next stop was Pawling; here were two, *coccinea* and *pentandra*, not seen elsewhere. The next morning I stopped at Dykeman's Station, Putnam Co.; the pastures west of this station have many individuals, including several forms. In the afternoon I visited Bedford, Westchester Co., and walked two miles south and over a rocky hill to the west of the railroad, on my way back. This region is out of the limestone and I saw only the forms common about New York, *Biltmoreana*, *Boyntoni*, and *pruinosa*.

In order to cover a long range of territory I skipped from Pawling to Sharon Station. If one could go to Dover Furnace, using that as a base, he would find in a radius of five or six miles the best *Crataegus* country south of Millerton.

Another excellent way to find lots of thorns is to charter a good guide; this I did the next week going to Moore's Mills with Dr. C. C. Curtis.

The town of Unionville just east of Moore's Mills was the region principally searched; here we spent two days, including

a trip to the summit of Clove Mountain. Another day was occupied in a trip from Clove Branch to Brinckerhoff Station; this gave us two new ones, *Crus-galli* and *lobulata*.

Although the flowering time is the best for finding *Crataegus*, the autumn, when they are in mature fruit, is the best time to distinguish the forms, for in the mature fruits one can find the most critical points of difference.

In the autumn there was less time at my disposal than in the spring. On September 30, I went to Dykeman's and the next day to Pawling and Coleman's; the latter place was of particular interest, being very strong in the *Intricatae* of which *Boyntoni* is a member.

October 8 I went over most of my territory about Moore's Mills; the previous week Dr. Curtis had covered the part that I did not. Here is another fine station for *Intricatae*, but the form that interested me most was one Dr. Curtis found in 1904, this proving to be *deltoides* Ashe, found before by Dr. C. D. Fretz at Sellersville, Pa., only two trees; we found three stations.

The following list of thorns of Dutchess Co. includes also a few stations of interest south to New York.

CRUS-GALLI

Crataegus Crus-galli L.

Brinckerhoff; Mt. Vernon, Harlem River, Woodmere, L. I.,
Bicknell.

PUNCTATAE

Crataegus punctata Jacq.

Moore's Mills, Clove Branch.

PRUINOSAE

Crataegus albicans Ashe. (*C. dissona* Sarg.)

Moore's Mills, Coleman's; Dykeman's, Putnam Co.

Crataegus arcana Beadle.

Moore's Mills.

Crataegus cognata Sarg.

Dykeman's, Putnam Co.

Crataegus deltoides Ashe.

Moore's Mills.

Crataegus pruinosa (Wendl.) Beadle.

Moore's Mills ; Dykeman's, Putnam Co.; Bedford, Westchester Co.; New York Bot. Garden, *Shaffer*; Fort Lee, N. J., *Curtis*.

TENUIFOLIAE

Crataegus delucida Sarg.

Millerton, Moore's Mills, Coleman's.

Crataegus glaucophylla Sarg.

Coleman's.

Crataegus matura Sarg.

Millerton, Moore's Mills, Coleman's.

Crataegus pentandra Sarg.

Pawling ; Clove Mt., Unionvale.

Crataegus tenella Ashe.

Coleman's, Unionvale ; Dykeman's, Putnam Co.

FLABELLATAE

Crataegus polita Sarg.

Coleman's, Clove Branch.

Crataegus Pringlei Sarg.

Coleman's.

Crataegus tenuifolia Britton. (*C. Holmesiana* Ashe, not *C. Holmesii* Lesq.)

Moore's Mills.

Old nursery, Jerome Ave., New York City, *Bicknell*. (This is the form *C. villipes* Ashe.)

Crataegus lobulata Sarg.

Two miles south of Hopewell Junction.

COCCINEAE

Crataegus coccinea L. (Of Linné's herbarium, *vide* Sargent.)

Pawling.

Crataegus coccinea rotundifolia Sarg. (*C. Dodgei* Ashe, *C. Gravesii* Sarg.)

Coleman's, Moore's Mills ; Dykeman's, Putnam Co.

INTRICATAE

Crataegus biltmoreana Beadle. (*C. glandulosa* Pursh, not Michaux ;
C. modesta Sarg., *C. premora* Ashe.)

Coleman's, Moore's Mills ; Dykeman's, Putnam Co.; Bedford,
Westchester Co.; New York Bot. Garden ; Woodlawn, New
York City, *Bicknell* ; Fort Lee, N. J., *Curtis*.

Crataegus Boyutoni Beadle. (*C. coccinea* ? Britton, *C. foetida*
Ashe, *C. Baxteri* Sarg.)

Coleman's, Moore's Mills, Clove Branch ; Dykeman's, Putnam
Co.; Bedford, Westchester Co.; Harlem River, Riverdale, and
Ft. Washington, *Bicknell* ; Persimmon Island, New Rochelle,
Day ; Ft. Lee, N. J., *Curtis*.

Crataegus intricata Lange.

Coleman's, Moore's Mills.

Crataegus.

No. 6a, Coleman's.

TOMENTOSAE

Crataegus macracantha Lodd. (*C. ferentaria* Sarg.)

Coleman's, Moore's Mills, and Clove Branch.

A set of these thorns is deposited in the herbarium of the
Torrey Club.

NEW YORK BOTANICAL GARDEN.

A CAUSE OF FREAK PEAS

BY J. M. VAN HOOK

After two years experimenting in the study and control of pea-
blight * due to the fungus *Ascochyta Pisi* Lib., in which the ger-
mination of the diseased seed has been a part of the work, thou-
sands of diseased seedling-peas have been observed. One *cause*
for abnormal growth might be of interest to those whose atten-
tion has been called to freak peas by Clendenin † in the March
number of TORREYA of last year.

* Bull. 173, Ohio, Agr. Exp. Sta. 1906.

† Clendenin, Ida. Other Freaks of Peas. TORREYA, 5 : 41-42. 1905.